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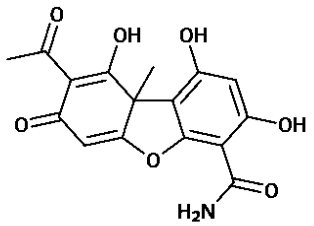
Product Information

Cercosporamide
from *Cercosporidium henningsii*

Catalog Number **SML0172**
Storage Temperature –20 °C

CAS RN 131436-22-1

Product Description
Molecular formula: $C_{16}H_{13}NO_7$
Molecular weight: 331.28



Cercosporamide was initially identified as a phytotoxin with broad-spectrum antifungal activity.[1-3] Studies have shown cercosporamide is a specific, highly potent fungal inhibitor of the cell wall integrity-signaling pathway mediator, protein kinase (Pkc1) inhibitor.[2,4] Semisynthetic cercosporamide analogs demonstrated hypoglycemic activity and therefore, serve as candidates for potential new antidiabetic drugs.[5]

Cercosporamide was found to block eIF4E (Eukaryotic Initiation Factor) phosphorylation in cultured cancer cells, inducing apoptosis, suppressing proliferation, and reducing soft agar colonization. The eIF4E phosphorylation inhibitory effect was also shown when administrated orally on xenograft human tissue and mouse liver tissue. Cercosporamide is a potent and selective Mnk inhibitor. It reduces tumor growth in xenografted HCT116 tumors and suppresses the outgrowth of B16 melanoma lung metastases. Hence, blocking Mnk function and eIF4E phosphorylation may be an attractive anticancer strategy.[6]

Purity: ≥98% (HPLC)

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Soluble in ethyl acetate (1 mg/mL), chloroform (1 mg/mL), and DMSO (5 mg/mL). DMSO solution (1 mg/ml), kept at –20 °C, is stable for at least three months.

Storage/Stability
Store the product sealed at –20 °C. Under these conditions the product is stable for at least 3 years.

References
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2. Sussman, A. et al., Discovery of cercosporamide, a known antifungal natural product, as a selective Pkc1 Kinase inhibitor through high-throughput screening. Eukaryot. Cell, **3**, 932-943 (2004).
3. Sugawara, F. et al., The structure and biological activity of cercosporamide from Cercosporidium henningsii. J. Org. Chem., **56**, 909-910 (1991).
4. Pagán-Mercado, G. et al., Antifungal research strategies aiming for new targets. P. R. Health Sci. J., **28**, 220-226 (2009).
5. Furukawa, A. et al., (-)-Cercosporamide derivatives as novel antihyperglycemic agents. Bioorg. Med. Chem. Lett., **19**, 724-726 (2009).
6. Konicek, B.W. et al., Therapeutic inhibition of MAP kinase interacting kinase blocks eukaryotic initiation factor 4E phosphorylation and suppresses outgrowth of experimental lung metastases. Cancer Res., **71**, 1849-1857 (2011).

LS,EM,DWF,DZ,MAM 02/12-1